

REMARKS

Claims 1-38 are pending in the application, of which Claims 1, 6, 10, 15, 19, 24, 28, 33, 37 and 38 are independent claims. Claims 6 and 24 are objected to because of informalities. The drawings are objected to because the numbers and reference characters are not plain and legible. Claims 3, 4, 12, 13, 21, 22, 30, 31 and 35-37 are rejected under 35 U.S.C. § 112, second paragraph. Claims 1- 38 have been rejected under 35 U.S.C. § 103(a). The rejections are traversed. New Claims 39-41 have been added to the application.

Regarding Objections to the Claims

Claims 6 and 24 have been objected to because of informalities. In response, Claims 6 and 24 have been amended to add a period at the end of each claim. The Applicants appreciate the Examiner's notice of the clerical error. Removal of the objections to claims 6 and 24 is respectfully requested.

In addition, Claims 26 and 27 have been amended to correct clerical errors in the preambles.

Regarding Objections to the drawings

The drawings are objected to because the numbers and reference characters are not plain and legible. Replacement drawings are being submitted together with this amendment. Removal of the objections to the drawings is respectfully requested.

Regarding rejections under 35 U.S.C. § 112

Claims 3, 4, 12, 13, 21, 22, 30 , 31 and 35-37 are rejected under 35 U.S.C. § 112, second paragraph. In response, claims 3, 12, 21, 30 and 35 have been amended to provide antecedent basis for "selected task queue"; Claims 4, 13, 22, 31 and 36 have been amended to provide antecedent basis for "associated task queue"; and Claim 37 has been amended to provide antecedent basis for "associated task queue" and "associated worker thread." Removal of the

rejection of Claims 3, 4, 12, 13, 21, 22, 30, 31 and 35-37 under 35 U.S.C. § 112 is respectfully requested.

Regarding rejections under 35 U.S.C. § 103(a)

Claims 1, 4, 5-7, 10, 13-16, 19, 22-25, 28, 31-33, and 36 have been rejected under 35 U.S.C. § 103(a) as being deemed unpatentable over Maresco (U.S. Patent No. 6,418,458) in view of Sullivan (U.S. Patent No. 5,438,680). Claims 2-3, 8-9, 11-12, 17-18, 20-21, 26-27, 29-30, 34, and 35 have been rejected under 35 U.S.C. § 103(a) as being deemed unpatentable over Maresco in view of Sullivan and further in view of Najork et al. (U.S. Patent No. 6,377,934.) Claims 37 and 38 are rejected under 35 U.S.C. § 103(a) as being deemed unpatentable over Maresco in view of Sullivan and further in view of Brenner et al. (U.S. Patent Application Publication No. 2003/0225815.)

Before discussing the cited references however, another brief review of the Applicant's disclosure may be helpful.

The Applicant claims a method for processing computing tasks in a multithreaded computing environment. A plurality of worker threads are defined, each working thread capable of processing a task. A task space is defined as a plurality of task queues, where each task queue is capable of queuing a plurality of tasks and is associated with a respective worker thread. A task scheduler assigns a task amongst the task queues (and thus to worker threads) in an essentially random fashion.

Turning to the cited references, Maresco discusses a plurality of work crews, each work crew having a pool of workers and a task queue. Each worker encapsulates a thread. Each work crew has a different priority. A task is assigned to a work crew based on matching priority or least utilized work crew. The task is added to the task queue of the work crew and assigned to a waiting worker. Each worker may belong to more than one work crew and may store a list of requests initiated by the worker via a task.

Maresco does not teach or suggest at least the Applicants' claimed "associating each task queue with a respective worker thread." In contrast, as shown in Fig. 2, a work crew has a single

task queue shared by worker objects. (See Fig. 2, work crew (202); worker objects (208); task queue (210).) A task queue in the work crew is shared by all of the workers in the work crew. A worker may also store a list of requests initiated by the worker via a task. (See col. 3, ll. 22-23 and ll. 40-63.) Maresco merely suggests that a work crew may have more than one task queue.

Neither Maresco nor Sullivan even discuss associating a task queue with a respective worker thread. Maresco merely discusses a task queue shared by a plurality of workers. Sullivan merely discusses scheduling threads or processes in a single-threaded multiprocessor system. (See Col. 3, line 64-Col 4, line 3; and Col. 6, lines 9-12.)

Neither Najork or Brenner cure the deficiencies in the combination of Maresco and Sullivan. Najork merely discusses a method of queuing universal resource locators dependent on the host address. (See Col. 3, lines 55-67.) Brenner discusses periodic load balancing of thread queues in a multiprocessor system. Each processor has an associated thread queue and periodic load balancing is performed to ensure that the workloads for the processors are optimally balanced. The combination of Najork and Brenner does not teach or suggest associating a task queue with a respective worker thread.

Patentably distinguishing claim language of independent Claims 1, 6, 19 and 24 includes: “associating each task queue with a respective worker thread”

In addition, patentably distinguishable claim language of independent Claims 10 and 15 includes: “each task queue associated with a respective worker thread”

Claims 2-5 are dependent on Claim 1; Claims 7-9 are dependent on Claim 6; Claims 11-14 are dependent on Claim 10; Claims 16-18 are dependent on Claim 15; Claims 20-23 are dependent on Claim 19; Claims 25-27 are dependent on Claim 24; Claims 29-32 are dependent on Claim 28; and Claims 34-36 are dependent on Claim 33 respectively and thus include the limitations of these base claims. Accordingly, the present invention as now claimed is not suggested by the cited art. Reconsideration of the rejections under 35 U.S.C. § 103(a) is respectfully requested.

Regarding New Claims

New Claims 39-41 are of the same scope as Claims 6, 33, and 37 respectfully, and are allowable for the reasons stated above. Acceptance is respectfully requested.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims (claims 1-36) are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

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